--1. A modular microchannel apparatus for the chemical analysis of an analyte in a sample, comprising:

(a) at least two separation units each including (i) a microchannel through which a sample comprising an analyte may be driven in a determinable time period, said time period indicative of molecular characteristics of the analyte, (ii) an inlet allowing input of liquid into the microchannel, and (iii) an outlet allowing removal of liquid from the microchannel;

(b) a single reservoir unit comprised of a reservoir adapted to contain a liquid for introduction through the inlet and into the microchannel of each separation unit, the reservoir having dimensions that enable successive operative and modular coupling to each separation unit so as to allow transfer of liquid from the reservoir unit into the microchannel of each separation unit, thereby enabling chemical analysis to be carried out in each of a plurality of separation units using the single reservoir unit; and

(c) an external power unit operatively connected to the reservoir unit for driving the liquid from the reservoir into and through the microchannel of each separation unit.

2. An apparatus according to claim 1, wherein at least one of the separation units is chip-shaped and formed from a first half and a second half each having a substantially planar surface facing and joining the other half, wherein at least one of the planar surfaces has a channel thereon such the joining of the two surfaces forms the microchannel.

3. An apparatus according to claim 1, wherein at least one of the separation units has one or more openings leading to the microchannel capable of admitting liquid reagents such that when the separation unit and the reservoir unit are operatively and modularly coupled, the openings are aligned with the reservoirs thereby allowing the liquid reagents and the analyte to pass from the reservoirs into the microchannel without substantial leakage.

4. An apparatus according to claim 2, wherein at least one of the separation units includes a substrate comprised of a material other than silicon or silicon dioxide in which the first microchannel is formed by laser ablation.

5. An apparatus according to claim 2, wherein the reservoir unit includes a membrane that covers at least one of the reservoirs confining the prepackaged liquid reagent therein, wherein the membrane is penetrable with a probe for applying a driving force to drive movement of liquid reagent and analyte from the reservoir through the microchannel of at least one of the separation units.

6. An apparatus according to claim 2, wherein both substantially planar surfaces of the separation unit having a first half and a second half have a laser-ablated channel thereon and the two channels join to form the microchannel.

7. An apparatus according to claim 2, wherein the channel of at least one separation unit is formed by laser ablation.

8. An apparatus according to claim 2, wherein the external power unit comprises a powering plate operatively and modularly coupled to the reservoir unit, the powering plate having an electrical connection to the reservoir to provide a driving force to drive movement of the liquid reagents and analyte from the reservoir through the microchannel.

10. An apparatus according to claim 26, further comprising a peltier plate operatively and modularly coupled to the support plate for controlling the temperature of at least one of the separation units.

11. An apparatus according of claim 10, wherein the peltier plate can be used to heat or cool at least one of the separation units by selecting an appropriate mode of operation.

25. A kit for making a modular microchannel apparatus for the chemical analysis of an analyte in a sample, comprising:

(a) at least two separation units each including (i) a microchannel through which a sample comprising an analyte may be driven in a determinable time period, said time period indicative of molecular characteristics of the analyte, (ii) an inlet allowing input of liquid into the microchannel, and (iii) an outlet allowing removal of liquid from the microchannel;

(b) a single reservoir unit comprised of a reservoir adapted to contain a liquid for introduction through the inlet and into the microchannel of each separation unit, the reservoir having dimensions that enable successive operative and modular coupling to each separation unit so as to allow transfer of liquid from the reservoir unit into the microchannel of each separation unit, thereby enabling chemical analysis to be carried out in each of a plurality of separation units using the single reservoir unit; and

(c) an external power unit operatively connected to the reservoir unit for driving the liquid from the reservoir into and through the microchannel of each separation unit.

26. The apparatus according to claim 9, further comprising a support plate for operatively and modularly coupling to the separation units.--

Please add the following new claims:

--28. A modular microdevice for analyte analysis, comprising:

(a) a plurality of separation units each including (i) a microchannel through which a sample comprising an analyte may be driven in a determinable time period, said time period indicative of molecular characteristics of the analyte, (ii) a plurality of inlets allowing input of liquid into the microchannel, and (iii) at least one outlet allowing removal of liquid from the microchannel;

(b) a single reservoir unit comprised of a plurality of reservoirs, wherein each reservoir is adapted to contain a liquid for introduction through a corresponding inlet into the microchannel of each separation unit, and further wherein each reservoir is capable of operatively and modularly coupling to each separation unit in succession so as to allow transfer of liquid from the reservoir unit into the microchannel of each separation unit, thereby enabling chemical